

WHAT IS CLAIMED IS:

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1. A secondary-battery control circuit,
comprising:
a first path supplying a first load current
from one or more secondary batteries connected in series
or parallel, to a system, and including a first cutoff
switch; and
a second path supplying a second load current
from said one or more secondary batteries to the system,
wherein said first cutoff switch is turned off
15 if a voltage of said one or more secondary batteries is
lower than a first predetermined voltage, or if the
first load current is greater than a predetermined
current, thereby cutting off the first load current to
the system.

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2. The secondary-battery control circuit as
25 claimed in claim 1, wherein said second path includes a

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first cutoff s

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turned off if
batteries is h
voltage.

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generating a f
a se
detecting the
batteries;
a fi
standard volta
secondary batt

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a first comparing circuit comparing said first standard voltage with the voltage of said one or more secondary batteries, to detect whether said one or more

secondary batteries
a second
generating a second
a first
voltage correspond
e or more second
secondary batteries
a second
cond standard vo
d first voltage
excess current
secondary batteries
wherein
sed on outputs o
d second compar

5. The
aimed in claim 4
a third
generating a third
a third
andard voltage w

a first voltage detecting circuit detecting a voltage corresponding to a current flowing through said one or more secondary batteries while said one or more secondary batteries are being discharged; and

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generating a third standard voltage;

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secondary batteries, to detect whether said one or more secondary batteries are overcharged;

a fourth standard-voltage generating circuit generating a fourth standard voltage;

5 a second voltage detecting circuit detecting a voltage corresponding to the current flowing through said one or more secondary batteries while said one or more secondary batteries are being charged; and

10 a fourth comparing circuit comparing said fourth standard voltage with the voltage detected by said second voltage detecting circuit, to detect whether the excess current flows through said one or more secondary batteries,

15 wherein said first cutoff switch is controlled based on outputs of said third comparing circuit and said fourth comparing circuit.

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6. The secondary-battery control circuit as claimed in claim 1, wherein said system, to which the second load current is supplied through said second path, includes a remaining-charge indicating IC (Integrated
25 Circuit) used for indicating a remaining charge of said

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one or more secondary batteries, or a resetting IC used for resetting the system.

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7. A battery pack, comprising:

one or more secondary batteries connected in series or parallel; and

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a secondary-battery control circuit,

wherein said secondary-battery control circuit

includes a first path supplying a first load current

from said one or more secondary batteries to a system,

and including a first cutoff switch; and a second path

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supplying a second load current from said one or more

secondary batteries to the system, wherein said first

cutoff switch is turned off if a voltage of said one or

more secondary batteries is lower than a first

predetermined voltage, or if the first load current is

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greater than a predetermined current, thereby cutting

off the first load current to the system.

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8. The battery pack as claimed in claim 7,
wherein said second path includes a second cutoff switch
controlled independently of said first cutoff switch.

9. The battery pack as claimed in claim 8,
wherein said second cutoff switch is turned off if the
10 voltage of said one or more secondary batteries is
higher or lower than a second predetermined voltage.

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10. The battery pack as claimed in claim 8,
wherein said secondary-battery control circuit further
includes:

a first standard-voltage generating circuit
20 generating a first standard voltage;

a secondary-battery voltage detecting circuit
detecting the voltage of said one or more secondary
batteries;

a first comparing circuit comparing said first
25 standard voltage with the voltage of said one or more

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a third standard-voltage generating circuit
generating a third standard voltage;

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wherein said first cutoff switch is controlled based on outputs of said third comparing circuit and said fourth comparing circuit.

12. The secondary-battery control circuit as
claimed in claim 7, wherein said system, to which the
25 second load current is supplied through said second path,

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a first standard-voltage generating circuit

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wherein said first cutoff switch is controlled based on outputs of said first comparing circuit and said second comparing circuit.

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wherein said first cutoff switch is controlled based on outputs of said third comparing circuit and said fourth comparing circuit.

18. The portable device as claimed in claim 13, wherein said system, to which the second load current is supplied through said second path, includes a remaining-charge indicating IC (Integrated Circuit) used for indicating a remaining charge of said one or more secondary batteries, or a resetting IC used for resetting the system.